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THE UNIVERSITY OF ALBERTA

Affective Responses to Narrative Prose

by

Margaret Johnson

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A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Affective Responses to Narrative Prose submitted by Margaret Johnson in partial fulfilment of the requirements for the degree of Master of Arts.

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Abstract

This experiment addressed two aspects of affective reactions to narrative texts: (1) the intensity of affect while reading, and (2) the affective similarity of memories recalled after reading. Variations in affective intensity and in memory similarity were examined as a function of: (1) text style, i.e, first versus third person narrative; (2) information type, i.e, text describing context versus text describing context plus visceral and somatic responses; (3) reading modality, i.e, oral versus silent reading, and; (4) capacity for imaginative involvement (absorption; see Tellegen and Atkinson, 1974).

Eighty undergraduates in a completely crossed 2 X 2 X 2 X 2 design read a short narrative text and then completed the Profile of Mood States (POMS: Mc Nair, Lorr, & Droppleman, 1971). Three autobiographical memories were elicited using single verb prompts, following which subjects reported their feelings at the time of each remembered event using the POMS. High absorption readers reported more intense affect while reading, although there were no reliable differences in affective intensity due to either the text variables or to reading modality. Using correlations between ratings of affect while reading and ratings of affect in the memories as an index of affective similarity, evidence of a mood congruence effect was obtained, but this did not vary between conditions.

In addition to these unexpected results, items from a postexperimental questionnaire indicated that the high absorbers who read orally experienced self-awareness, although the type of self-awareness differed between men and women. Also, high absorption participants who read first person texts aloud reported that they recalled memories they had not thought about in a long time. Self-awareness and self-referent style may influence the selection of an event episode from among a pool of affectively similar memories such that the event is thematically discontinuous with current thoughts and memories, while sharing some affective qualities with the text being read.

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I. INTRODUCTION

Reading narrative prose involves the cognitive processes that enable comprehension. For some, reading also involves the emotional processes that enable a personal response to the story. In this study we examined variables which influence the intensity and the quality of emotion experienced in response to narrative prose. From Lang's (1984) network model of emotion, we developed specific predictions regarding three variables that may influence the emotional responses of the reader: (1) reading modality (oral versus silent reading), (2) text style (first person versus third person pronouns), (3) and text information type (context only versus context plus somatic responses). In addition we identified the reader's capacity for imaginative involvement as a fourth variable that would interact with modality and text to influence affective responses to prose.

Lang describes emotion as "... an action set, defined by a specific information structure in memory, which, when accessed, is processed as both a conceptual and a motor program" (Lang, 1984, p.196). The information structure in memory consists of two categories of information: (1) stimulus information, such as information about the setting and characters; and (2) response information, such as the protagonist's overt acts and accompanying somatic sensations. Both types of information are organized in a single proposition network which, when activated, functions as a single unit.

Central to Lang's model is the assumption that response information in emotion networks is doubly coded as semantic propositions and motor programs (Lang, 1984, pp. 196-198). This dual coding means that response information (1) is coded as a proposition in the network and (2) includes the physical state or action which the proposition represents (for example, response information includes both the conceptual information that one's heart is pounding plus the physiological event, the actual tachycardia). Lang proposes an interaction between the semantic and motor components of the network. The dynamic properties which he discusses are unidirectional, with activation spreading from the semantic to the motor components. That is, emotion is ~~in~~ some sense first concept, then concept plus action. In contrast, we propose that network activation can also originate and spread in the other direction, that is, from the motor to the conceptual components. Thus, activation may spread from either of the two sources, conceptual or motor.

If overt behavioral acts and somatic sensations activate the emotion network, then oral reading should be more emotionally engaging than silent reading. Oral reading often includes a range of hand gestures, postures, and facial configurations which are not a part of silent reading. Both oral and silent reading activate the semantic component, but if oral reading also activates the motor component of the emotion network, thereby increasing total activation, the oral reader should experience more intense

emotion . "When the reader is an oral reader, he finds in his gestures, postural sets, vocal intonations, and even his silence an activity that may speak louder than the words, an evaluative technique that may transcend the lexical meaning of the words... Oral reading is the surest way to an affective experience of literature" (Bacon & Breen, 1959, pp. 53-54).

Evidence for the spread of activation from motor sources can be found in the facial efference literature. Ruslova, Izard, and Simonov (1975) had actors reproduce the facial expressions of specific emotions both with and without mental images of emotion evoking situations. Those actors who reproduced only the expression spontaneously reported that "... they could not avoid emotional stress reproducing facial expressions of this or that emotion" (Ruslova, Izard, and Simonov, 1975, p. 1132). Similar shifts in mood toward congruence with facial expression have been reported by Laird (1974; see also Laird, Wagener, Halal and Szegda, 1982; and for limitations on this relationship, see Tourangeau and Ellsworth, 1979). Hence it appears that motor activation can influence subjective emotion. We assumed that simultaneous activation of both semantic and motor components during oral reading would, under certain conditions, be experienced by the oral readers as a relatively intense affective state.

Whether a text is written in first person or third person may affect whether oral reading intensifies emotion.

A reader of a first person text implicitly affirms that the description in the narrative is a description of self, a description of "me". When the first person text is read aloud, the reader implicitly makes a self-referent verbal statement. If a third person text is read either silently or aloud, it does not imply self-reference. The significance of implicit self-reference is that a statement in a third person text, "He is walking quickly," constitutes stimulus information. Its equivalent in the first person text "I am walking quickly," refers to dually-coded response information. Thus, oral reading of a first person text was expected to enhance activation of both the conceptual and motor systems of the emotion network. Silent reading conditions and third person text should primarily activate the conceptual portions of the network.

Whether oral reading and first person text interact to enhance affect in the reader also depends on the narrative content of the text. If the text is chiefly a description of setting, or stimulus information, then there will be very little for the oral reading of first person style to interact with. Alternatively, if the text describes the protagonist's activity within the setting that is, if it includes response descriptions, there will be more opportunity for first person style and oral reading modality to interact and thereby enhance affect. For example, the following two phrases are, respectively, examples of predominantly stimulus and predominantly response oriented

texts. (1) Immediately above my face there is a rough wood surface. The wood is cold and damp. (2) I struggle to sit up but hit my forehead against a rough wood surface immediately above my face. I touch the cold, damp wood and shudder. Lang and his collaborators have sutdied the effects of stimulus versus response oriented text content and found that readers' visceral responses to response oriented narratives were consistently greater than visceral responses to stimulus oriented narratives (Lang, 1979; Lang, Kozak, Miller, Levin, &McLean, jr., 1980). However these studies did not address the reading modality or writing style variables. We predicted that when reading modality, writing style, and text content were all varied independently, the most intense affect would be experienced by oral readers of first person, response oriented text.

We also explored whether the above prediction should be qualified to take into account individual differences among readers. Perhaps individual differences in the tendency to become involved in the imagined story while reading a narrative influence the reader's response. A personality dimension which seems to tap imaginative involvement is absorption. Absorption is an empirically defined personality trait which includes attitudes toward and capacity for involvement in such subjective experiences as mental imagery, emotion, memory, and sensory experiences. According to Tellegen and Atkinson (1974), persons high on the absorption trait are more likely than those low on that

trait to become involved during activities such as dramatic performance, listening to music, and reading. High absorbers may also more effectively discriminate and attend selectively to significant kinaesthetic sensations than low absorbers (Davidson, Schwartz, & Rothman, 1976). These kinaesthetic sensations are instances of the motor program coding of response information. Thus, compared to low absorption readers, high absorption readers should show more markedly the hypothesized interaction between oral reading, first person style, and response information.

Affective Intensity and Autobiographical Memory

The reationale and hypotheses introduced above may be relevant to aspects of affective reactions other than affective intensity as such. Lang defines emotion as a network of propositions which functions as a single (and apparently independent) unit when activated, but it is not at all clear that activation should be specific to a particular event or memory episode. Lang uses a single event (an encounter with a phobic object) to exemplify the emotion network construct, but he indicates that this example is a prototype representative of a broader (but finite and definable) set of events which are integrated by multiple associative links (Lang, 1984). If activation does spread beyond a specific episode prototype, it will access additional episodes with multiple associative links to the prototypic episode, thus accessing affectively similar

memories. Therefore, to the extent that an emotion network is activated by first person, oral, response oriented reading, affectively similar memories should be more readily recalled.

We were interested in the effects of the intensity of affect on autobiographical memories in particular. Autobiographical memories are memories for events in which one has been personally active (Robinson, 1976; 1980). They are more accessible when experimental subjects are currently experiencing emotions consistent with the affective tone of the remembered event (Bower, 1981). That is, happy subjects recall more positively toned events than do angry or sad subjects, who in turn recall more negatively toned events. Assuming that the degree of network activation is accurately indexed by subjective intensity, those readers who experience the most intense affective response to reading should also recall more auitobiographical memories that are affectively similar to the narrative. Thus we predicted more affectively congruent autobiographical recall among high absorption participants following oral, first person, response information readings.

In summary, we predicted that reading modality, (oral versus silent), text style (first versus third person), text information type (stimulus versus response information), and capacity for imaginative involvement (high versus low absorption) would interact to influence the intensity of affective reactions to reading and the frequency of recall

of affectively similar autobiographical memories.

II. Method

We tested the preceding hypotheses using a completely crossed, between subjects 2 X 2 X 2 X 2 design of writing style X information type X reading modality X absorption. Participants either high or low in absorption read a text written in either first or third person with either response information or stimulus information being predominant. They were instructed either to read it aloud or to read silently. Immediately following the reading task they completed a mood scale. Autobiographical memories were then elicited for each of three verb prompts, and mood scales were completed after all three memories had been recalled.

Subjects

Participants were 80 undergraduate psychology students selected for their scores on the Tellegen Absorption Scale (TAS) (Tellegen & Atkinson, 1974). The particular form of the TAS used to select participants, the Differential Personality Questionnaire, was composed of a total of 60 true/false questions (eg. I can be greatly moved by eloquent or poetic language). These included 34 of Tellegen's original items (Tellegen, 1982) interspersed with 26 distractor items. A total of 655 students were tested during a regular class session in the winter academic term. Those students with scores falling in the upper and lower thirds of the distribution were designated as high and low absorption participants, respectively. All low absorption

participants scored 16 or lower and high absorption participants scored 22 or higher on the absorption scale. Since it was not possible to complete testing during the winter term, four small Spring and Summer session classes were also pretested, but the criteria based on the larger winter session sample were retained for selecting participants. Because they had not been in class during the pretesting sessions, 14 participants were not tested during a class session but completed the absorption scale immediately upon entering the laboratory. No more than two of these subjects were assigned to any one condition so that any possible differences due to recency of testing would be distributed. The remaining 66 subjects were selected for gender and absorption level, and assigned at random across style, information type and modality conditions, but constrained within sex and absorption conditions, as discussed below.

Gender and absorption were necessarily confounded in this design. Although equal numbers of high and low absorption participants and equal numbers of men and women participated across modality and text conditions, there were only 5 participants per cell once the modality and text conditions were divided by high and low absorption. Since there were few low absorption women in our sample, the low absorption cells were all composed of 3 men and 2 women and the high absorption cells were all composed of 2 men and 3 women. Thus there were more women among the high absorption

participants and more men among the low absorption participants.

Procedure

The experimenter introduced herself, familiarized the participant with the two laboratory rooms where the study would take place, and briefly described the experimental tasks and procedures. Each participant was shown into the sound attenuated chamber and asked if he or she felt any discomfort in such enclosed spaces. This allowed screening of any participants who might have experienced distress in the chamber, and ensured that the chamber was not completely novel during the experiment. Those participants who had not previously completed the Tellegen Absorption Scale were asked to do so before being shown around the lab.

The experimental tasks began in a pleasant room furnished with a variety of comfortable chairs and a bed and lit by a combination of natural and low wattage incandescent light. Participants were instructed to sit down or lay down as they preferred, after which the experimenter left the room and turned on a tape recording of physical and cognitive relaxation instructions.

The physical relaxation instructions required the participants to tighten and then release a series of gross muscle groups to reduce muscular tension, thus ensuring that efferent activation during reading was not due to high levels of baseline tension. The cognitive relaxation

instructions encouraged the participants to pay attention to and then psychologically distance themselves from ongoing daily concerns, thereby reducing the likelihood of distraction by mundane daily concerns during the reading task (see Appendix A).

Upon completion of the relaxation sequence, the participant was seated in a sound-attenuated room before a cathode-ray-tube (CRT) monitor. At this time the participant received either oral or silent reading instructions on a separate typed sheet. Both instruction sets encouraged the reader to vividly imagine the story while reading it to him or herself either silently or aloud (see Appendix B). The experimenter asked the participant to paraphrase the instructions in his or her own words, corrected any misunderstandings or omissions, and answered any questions. The experimenter then left the chamber. One of four text versions was presented in the center of the monitor screen, one sentence at a time. The presentation time varied for each sentence, and was based on the mean of five independent oral readers' reading times. These presentation times necessarily varied across text type, but remained constant within reading conditions. During pilot testing we allowed the oral readers to repeat the reading task as many times as they needed in order to get a vivid image and to feel that they had a full sense of all that the text described. There was strong consensus among the pilot participants that three repetitions were necessary. Consequently, the text was

presented three times to all readers. There was a 10 second interval between repetitions during which the title was displayed.

When all three presentations of the text were finished, the experimenter turned on an audio tape recorder and returned to the chamber. (The tape recordings would have enabled measurement of response time as an additional indicator of the availability of memories. However, the readers did not consistently and reliably signal as soon as a memory came to mind and the response time measure was eventually discarded.) Each reader immediately completed the Profile of Mood States (POMS) (McNair, Lorr, &Droppleman, 1971). The POMS is composed of 65, 5 point adjective rating scales. The participants were instructed to rate each adjective on how well it described their feelings "right now", where 0= not at all well and 4= extremely well. The POMS was followed by one additional item designed to assess global intensity of affect (Overall, how strong or intense are your feelings right now?). The autobiographical memory task was introduced next. The reader was told that he or she would be asked to recall three different memories in response to three different verbs. The instructions stipulated that these should be specific memories of experiences that the reader was directly involved in. The order of prompt presentation was randomized across subjects. The reader was asked to signal the experimenter as soon as the memories came to mind and to describe them briefly (see

Appendix C). A variant of the POMS, which instructed the readers to report what their feelings had been at the time of the remembered event, was completed following the recall of all three memories.

Once the reader had identified and rated all three memories on the POMS, he or she was asked to review each memory and to retell it in greater detail. A set of probe questions was used to guide the recall process. These questions asked about the sequence of events, actions, body sensations, and setting (see Appendix D). It was specified from the outset that such elaboration was to be voluntary and that the participant was free to hold back personal information or to decline to answer any unwelcome questions. Following elaboration of the memories each reader completed a brief post experimental questionnaire.

Materials

Four versions of a single story adapted from Edgar Allan Poe's The Premature Burial (Van Doren Stern, 1977) were written to provide all possible combinations of the first and third person writing styles with the stimulus and response information types (see Appendix E). Our manipulation of writing style focused mainly on altering pronouns. However we also attempted to preserve and make use of the more subtle role of the reader as actor or observer that is implied by the first-third person distinction. For example, the first person phrase "slowly I opened my

eyelids" identifies the reader (I) as actor, whereas the third person equivalent, "slowly she opened her eyelids" implies that the reader is only observing the action of another(she). In the third person conditions, two comparable forms were written, one masculine (he/his) and one feminine (she/her), to be congruent with the gender of participant.

Manipulation of the information type variable involved several text attributes. All text versions contained comparable stimulus information, but the response versions included considerably more response information than did the stimulus versions. This additional response information included both obvious and subtle forms. Statements about sensations and body movements, such as "I smell earth and decay", or ," I struggle to sit up", were obvious response information. Subtle response information was varied by manipulating verbal immediacy. For example, using the demonstrative adjective rather than the definite article; "this book," rather than "the book", suggested the ability of an actor to point to a specific book, and in that sense it implied response information. Thus, response oriented versions included additional statements about sensations and actions and were expressed with more verbal immediacy than were the stimulus oriented versions.

This additional information necessarily made the response versions longer than the stimulus versions. In order to control for length, the protagonist's thoughts were added to the stimulus versions so that these stories

included the stimulus information common across all versions plus the protagonist's thoughts about that information. The thoughts served either to direct the reader's attention to the stimulus information, or to restate it. No new information was added that was not already common to all versions. For example, the statement "The ground is cold and damp" could be rephrased as "I notice that the ground is cold and damp", thus expanding the phrase without adding new information.

Our materials for eliciting memories were derived from an existing, successful method. Research on emotion and autobiographical memory has frequently employed single word prompts to elicit memories (Lishman, 1974; Lloyd & Lishman, 1975; Robinson, 1976; Robinson, 1978; Teasdale & Fogarty, 1979). Robinson (1976) in particular has refined the prompted memory technique by manipulating prompt word type, using either lists of affect terms or nouns and action words (verbs). On the basis of Robinson's work we selected verbs as the most appropriate memory prompts with which to test the affective similarity hypothesis.

One advantage to using verbs as prompts is that some are very clearly consistent with our understanding of response information. With this in mind we composed a prompt list of verbs which were identical or synonymous with those used in all story versions, but emtionally neutral. These verbs were: (1) to tap, (2) to recline, and (3) to cover. Administration of the prompts was expected to constitute a

weak, partial repetition of the reading mood induction procedure.

In this study we used the 65 item Profile of Mood States (POMS) to measure as precisely and explicitly as possible the affective qualities of the reading induced affect and the affective quality of the memories. For our three measures of affective similarity we calculated the Pearson Coefficient of Correlation between the POMS completed immediately following the reading task and each POMS completed for each of the three memories.

Finally, we included a post experimental questionnaire to assess the readers' responses during the reading and memory tasks (see Appendix F). Some items assessed awareness of feelings and changes in the quality of feelings during the reading process. Others measured the novelty of the memories that occurred during prompted recall ("I was reminded of memories I have not thought about in a long time"). Still other items were adapted from Buss' (1980) public self-awareness scale in order to assess whether the readers were aware of themselves as though viewed by an external audience. For example the item, "While I was reading I was concerned about what other people might think of me," expresses apprehension about evaluation by an external observer. Four public self-awareness questions were administered to all readers, but the oral readers were given two additional items which specifically referred to the act of reading aloud.

III. Results

This study was designed to test two main predictions, (a) that the condition of high absorption, oral modality, first person style, and response information type, would induce the most intense affect, and (b) that the affective quality of the personal memories of readers in this same condition would be similar to their affect while reading. The results included a significant effect for the intensity measure, but this effect was very different from the pattern of relationships we had originally predicted.

Affective Intensity

The global emotional intensity item (Overall, how strong or intense are your feelings right now?) was analysed using a 2 X 2 X 2 X 2 X 2 (gender X style X information type X modality X absorption) fixed factors ANOVA. As predicted, the high absorption readers reported greater intensity ($\underline{M}$= 3.30) than did the low absorption readers ($\underline{M}$ = 2.77), $\underline{F}$ (1, 128) = 4.646, $\underline{p}$= . 036. However, neither modality, information type, nor style interacted with absorption to qualify this effect, a finding that was contrary to our prediction.

Affective Similarity

The affective similarity hypothesis was tested by first calculating the Pearson product moment correlation between each of the three memory POMS scales and the original

reading POMS scale for every reader. These correlation coefficients were then used as indexes of affective similarity in a 2 X 2 X 2 X 2 X 3 (gender X information type X modality X absorption X memory position) analysis of variance with repeated measures for the position of the memory within the sequence of three memories (first, second, or third). Two higher order interactions were found, gender X modality X absorption, $F(1,64) = 5.479$, $p = .022$, and gender X modality X information type X memory position, $F(1, 128) = 3.075$, $p = .050$. Table 1 presents the cell means for the gender X modality X absorption interaction. Because post hoc comparisons using Duncan's Multiple Range Test did not identify any significantly different cells, any more specific statement about the source of this interaction would not be warranted.

Table 2 presents the cell means for the gender X modality X information type X memory position interaction. Again, the results of Duncan's Multiple Range Test were not statistically significant, thus no specific statement about the sources of this interaction have been made.

The measures of the affective similarity of the memories did not produce the predicted pattern of results across experimental conditions. However, this does not mean that there was no evidence of mood congruence among the reading affect and memory affect scales. The similarity

Table 1 Cell Means for Affective Similarity Indexes

	Absorption			
	high		low	
Gender	Modality		Modality	
	silent	oral	silent	oral
men	.204	.359	.315	.234
women	.440	.286	.255	.334

*note: Cell means are based on correlations between reading affect and memory affect.

Table 2 Cell Means for Affecitve Similarity Indexes

	Gender					
	women			men		
Modality	Memory Position			Memory Position		
I I	1	2	3	1	2	3
Oral						
Stimulus	.127	.376	.327	.340	.342	.152
Response	.420	.241	.253	.168	.376	.327
Silent						
Stimulus	.553	.170	.508	.281	.129	.434
Response	.344	.433	.190	.375	.250	.154

*note: Cell means are based on correlations between reading affect and memory affect.

indexes presented in Tables 1 and 2 are coefficients of correlation between the affect associated with each memory and affect while reading. T-tests on the mean correlations for memory positions 1 through 3 indicated that the similarity indices were all significantly different from 0, $t(79) = 2.557$, $p < .05$, $t(79) = 2.247$, $p < .05$, and $t(79) = 2.247$, $p < .05$, respectively. Although our principal measure of mood congruence did not confirm our predictions regarding the effects of experimental conditions, the correlations showed that the affect associated with each of the three memory positions was congruent with the affect experienced while reading.

In addition to finding that mood congruence was not influenced by our experimental manipulations, we also found that there was no significant correlation between global affective intensity following reading and the affective similarity index. The non-significant correlations for global intensity with the affective similarity of memories 1 through 3 were $r = .008$, $p = .438$, $r = -.035$, $p = .728$, and $r = -.091$, $p = .424$, respectively. This indicates that (1) the predicted pattern among the similarity effects was not evident across experimental conditions, and that (2) the intensity of reading affect did not influence the affective similarity of memories independent of the experimental manipulations.

Postexperimental Questionnaire

The postexperimental questionnaire results suggest some possible interpretations of the global affective intensity results, and an alternate conception of the relationship between affective intensity and autobiographical memory. The questionnaire items indicate that (1) high absorption participants experienced clear and compelling affect, (2) high absorption participants who read orally experienced self-awareness, the type of which differed between men and women, and; (3) high absorption participants reading first person texts aloud recalled events they had not thought about in a long time.

Absorption and clear, compelling affect

The questions regarding affect while reading were each analysed using 2 X 2 X 2 X 2 X 2 (gender X style X information type X modality X absorption) fixed factors ANOVAs. Results for the item which evaluated how compelling the affect was (While reading I came face to face with feelings I usually ignore) included a main effect for absorption, $F(1, 128) = 4.671$, $p = .035$, with the high absorbers (M=1.63) reporting more compelling affect than the low absorbers (M= 1.00). The item about emerging clarity of affect (At first my feelings were unclear but later they seemed clear and more definite) also showed an absorption main effect, $F(1,128) = 5.173$, $p = .028$. High absorbers reported more emerging clarity (M = 2.24) than did low absorbers (M = 1.59). In conjunction with the ratings of

affective intensity reported earlier, these data indicate that high absorption readers experienced intense, compelling, and increasingly clear affect while reading.

Oral reading and self-awareness

Further evidence from the postexperimental questionnaire indicates that when high absorbers read orally they became self-aware, and the quality of self-awareness differed between men and women. The high absorption men who read orally reported high public self-awareness which resembled evaluation apprehension. Although the evidence is less direct, there is some indication that the high absorption women oral readers experienced private self-awareness.

The evaluative nature of the men's concern is emphasized by the results for the questions adapted from Buss's (1980) public self-awareness measures. Among these public self-awareness items, the measure of concern about other peoples' opinions (While I was reading I was concerned about what other people might think of me) showed a modality X absorption X gender interaction, $F(1,128) = 5.017$, $p=.03$ (see Table 3). Duncan's Multiple Range Test (alpha = .01) indicated that, while reading aloud, the high absorption men's ratings were significantly higher than the ratings from readers in all other conditions.

The results for the impression management item, (while I was reading I was worried about making a good impression),

Table 3 Cell Means for Concern about Opinions of Others

	Absorption			
	high		low	
Gender	Modality		Modality	
	silent	oral	silent	oral
men	0.29	1.75	0.17	0.58
women	0.55	0.42	0.14	0.50

included a main effect for gender, $F(1, 128) = 6.625$, $p = .013$, which was qualified by a four way interaction of modality X absorption X gender X information type, $F(1,128) = 6.032$, $p=.018$ (see Table 4). Duncan's Multiple Range Test indicates that, as with their concern about other peoples' opinions, the high absorption men who read response information orally were also significantly more worried about making a good impression than were the readers in all other conditions (alpha = .01).

The measures of public self-awareness indicate that, when high absorption men read orally, they reported the greatest concern about other people's opinions and about impression management. Clearly these readers were publicly self-aware, and they seemed to have experienced some form of evaluation apprehension. When high absorption men read orally, they expressed concern about an implicit audience's impression of the reader as well as the reading.

Results from the tension subscale of the POMS administered immediately after the reading task suggested a similar trend toward increased self-awareness among the high absorption women who read orally. The tension subscale was analysed using a 2 X 2 X 2 X 2 X2 (gender X style X information type X modality X absorption) fixed factors ANOVA. An interaction of absorption X modality X gender was found, $F(1,128) = 4.041$, $p = .05$. Here again Duncan's Multiple Range Test failed to identify any difference among

Table 4 Cell Means for Impression Management

	Absorption			
	high		low	
Gender	Modality		Modality	
	silent	oral	silent	oral
men				
stimulus	0.67	1.25	0.17	1.00
response	0.75	3.00	1.17	0.83
women				
stimulus	0.60	0.67	0.67	0.75
response	0.67	0.33	0.25	1.00

the cell means. However the interaction is striking for its similarity to the public self-awareness results (see Table 5).

Because of the similarity between this trend and the public self-awareness results, we interpret the tension among high absorption women reading aloud as another form of self-awareness. Doing so assumes that all high absorption participants who read aloud experience self-awareness, although the specific form of that self-awareness differs for men and women. Wicklund (1975) argued that when a person experiences himself or herself as the object of his or her own attention, negative affect will arise from observing discrepancies between his or her aspirations and attainment. Among high absorption participants reading aloud, the women may have experienced this form of private self-awareness which was reflected in their high tension scores. In sum, while the high absorption men who read orally reported high public self-awareness and evaluation anxiety, we suggest that the high absorption women who read orally experienced private self-awareness.

Absorption, Self-awareness and Memory

High absorption was predictive not only of distinctive intensity, clarity and compellingness of affect, but when high absorbers read first person text orally it was also associated with a distinctive instantiation of autobiographical memory. The results from the questionnaire

Table 5 Cell Means for Tension Subscale

	Absorption			
	high		low	
Gender	Modality		Modality	
	silent	oral	silent	oral
men	2.44	2.03	1.94	2.25
women	1.94	2.86	2.33	2.19

item which evaluated the novelty of the memories (I was reminded of memories I have not thought about in a long time) are particularly informative in this regard. These results included an interaction of absorption X modality X style, $F(1,128) = 4.390$, $p = .042$ (see Table 6). Duncan's Multiple Range Test (alpha = .05) indicates that high absorbers who read first person texts orally recalled memories that had been dormant longer than the memories of all other readers. Recall that high absorbers who read orally experienced some form of self-awareness, either public or private. The results for the novelty question suggest that when these intensely self-aware subjects read first person texts, that is texts which also imply information about self, the memories that became most readily available were different from the memories they had recently been thinking about.

The questionnaire results suggest that affective intensity and autobiographical memories are perhaps related, but related in a much more subtle fashion than we had originally proposed. Clearly, in addition to reporting greater intensity of affect, the high absorption readers did experience their memories in a different way. However, these were not differences in the affective quality (POMS subscales) of the memories. The difference lay in how distinct the recalled episode was from events that the reader had recently thought about.

Table 6 Cell Means for Novelty of Memories

	Absorption			
	high		low	
Style	Modality		Modality	
	silent	oral	silent	oral
first person				
	2.22	3.10	2.67	1.60
third person				
	2.60	2.60	1.80	2.00

The results of this study contrasted with our predictions for both the affective intensity and the affective similarity measures. Where we had predicted a complex interaction for the measure of global affective intensity, we found only that high absorption readers experienced more intense affect than low absorption readers. Where we had predicted the same interaction for the affective similarity indexes, we found no reliable effects, although there was evidence of mood congruence independent of our experimental manipulations. Furthermore, the expected correspondence between affective intensity and affective similarity was observed neither in the pattern of differences between conditions nor in the correlations between these measures independent of experimental condition. However, analyses of the postexperimental questionnaire suggested that self-awareness during oral reading may have influenced the availability of personal memories. Specifically, when high absorption participants read orally they experienced self-awareness, when self-aware participants (high absorption oral readers) read self-referent first person texts, they recalled events that were distinct from their current thoughts and memories.

IV. Discussion

Affective Intensity and Absorption

The results from the global affective intensity measure did not show the predicted four way interaction among information type, modality, style, and absorption. Instead, affective intensity was greatest among the high absorption readers regardless of modality or of text variations. These results for affective intensity, as well as parallel results for reported clarity and compellingness of feelings, are consistent with our assumption that high absorption readers are more sensitive to visceral and kinesthetic information. The lack of any effects due to modality or textual variables suggests that sensitivity to visceral and kinesthetic information was not affected by the conditions varied in this experiment.

The failure to find any effect of our information type and modality manipulations on affective intensity constitutes a failure to replicate Lang's (1984) results. The reasons for this failure may be traced either to differences in the participants studied or differences in the measures of affective intensity. Lang found higher affective intensity among readers of response oriented texts when he used phobic subjects and physiological measures (GSR). We may have failed to replicate Lang's results because the effect of response information on affective intensity does not generalize beyond his highly specific

clinical population, or because Lang's physiological and our self-report affective intensity measures reflect two different aspects of affective intensity.

Lang (1984) emphasizes the dual coding of response information as both semantic propositions and motor programs. We have assumed that the high absorbers' sensitivity to kinesthetic and visceral information (see Davidson et al., 1976) was rooted in the motor programs which parallel the semantically coded response information in the emotion network. In other words, we assumed that the high absorbers' sensitivity is specific to physiological activity. On the basis of this assumption, we predicted an interaction among modality and information type (at least) to qualify the absorption effect. We argued that reading aloud provides kinesthetic feedback and text response information is dually coded, hence oral reading of response oriented texts should have induced more intense affect among high absorption readers. However, the lack of intensity differences attributable to modality or information type calls for an alternate conception of the absorption variable. It may be that high absorption readers are more sensitive to the semantically coded response information, not the physiologically coded motor program.

Wild and Johnson (in progress) propose that high absorbers genuinely experience and report more intense emotion in response to a variety of objects and events because of their greater sensitivity to semantically coded

response information. This sensitivity is conceived of as a process of automatic attention specifically to the semantically coded portion of response information. Hence the absorption difference in emotional responsiveness may be grounded in attentional style, which differs from Lang's emphasis on the physiologically based motor program portion of response information (Lang, 1984). In sum, the initial affective response to narrative prose appears to depend largely on the personality of the reader, particularly the absorption trait. Our failure to find any effect of information type or modality on affective intensity (in contrast to Lang's findings) suggests that the process underlying this absorption difference may not be obligatory physiological sensitivity to kinesthetic and visceral information, but the capacity to selectively attend to semantic information *about* kinesthetic and visceral events.

Affective Similarity and the Novelty of Autobiographical Memories

The measure of similarity between affect while reading and affect in the recalled memories did not differ across conditions, contrary to the predicted interaction among information type, modality, style, and absorption. Generally, there was evidence of affective similarity, but this similarity was independent of our manipulations. Affective similarity was also independent of global affective intensity during reading. Induced affect did not

facilitate the mood congruent recall, which leads us to endorse the position of Rholes, Riskind, & Lane that,"...it may be mood-related cognitions, rather than affect per se, that at least in part influences memory retrieval" (Rholes et al.,1987, p. 92). These mood congruence effects have important theoretical implications when considered in light of the mood-related cognitions implied by novel autobiographical memories.

Although there was no difference in affective similarity across conditions, high absorption oral readers (those who also reported high self-awareness) reported greater novelty of memories when they read first person texts. The coexistence of uniform mood congruence effects with condition specific reports of memories that were discontinuous with ongoing cognition is a theoretically significant finding because it indicates that those persons who experienced intense self-awareness and read self-referent texts had access to memories which were not only affectively congruent with their response to reading, but they were also memories for event episodes which were distinctly different from current thoughts and memories. Self-awareness seems to have influenced the retrieval of these novel memories, thereby functioning as an intervening variable similar to Rholes et al.'s (1987) mood-related cognitions.

To understand why the high absorption oral readers might have reported novel memories when reading first person

texts, let us first reconsider self-awareness. We have argued that oral reading makes high absorption men publicly self-aware, as indicated by their concern about others' opinions and their concern about making a good impression. This is consistent with the literature on affective disclosure which indicates that, when in a laboratory setting, men alter their natural conversation patterns to comply with the sex-role stereotype of the emotionally unexpressive male (Highlen and Gillis, 1978; Highlen and Johnston, 1979; Shimanoff, 1983; 1985). Such altered speech patterns require that the men monitor their behavior as though from the perspective of a stereotyping observer, a condition of public self-awareness which is expressed as evaluation apprehension.

We have also argued that oral reading makes high absorption women privately self-aware, as suggested by their elevated tension scores. In contrast to their male counterparts, the women transgressed the feminine stereotype of reporting only positive affect (Highlen and Gillis, 1978; Highlen and Johnston, 1979; Shimanoff, 1983; 1985) by reading aloud a very negatively toned text. This made them acutely aware of their deviant behavior. The awareness was from their own perspective, or private self-awareness, which induced diffuse anxiety but did not include concern about evaluation by others. Post hoc, it appears that among the oral readers self-awareness was induced by the disclosure of negative affect, but the particular type of self-awareness

probably depended on the particular sex-role demands on the reader.

If one accepts the affective disclosure hypothesis, it is not clear why both publicly and privately self-aware readers should have reported memories that were discontinuous with current thoughts and memories. It may have been the case that self-aware readers censored more of the memories they reported. That is, high absorption oral readers presumably experienced fearful, powerless, claustrophobic feelings in response to the text, and recalled affectively similar personal memories. If evaluation apprehension were intense they might have felt anxious about disclosing negative personal information. Thus, highly self-aware readers may not have reported the first personal memory that came to mind but selected some less anxiety provoking event to report. However, the privately self-aware women did report novel memories, but they did not report evaluation apprehension. If evaluation apprehension caused more censorship or deliberate selection of reported memories we would have expected an interaction with gender such that, among the high absorption oral readers of first person texts, the men (who reported the most evaluation apprehension) would report more discontinuous memories than the women. Yet we found no gender differences in the novelty results. Clearly, censorship due to evaluation apprehension cannot explain the pattern of novel memories.

If the pattern of novel memories is not a result of deliberate censorship, then there must be some difference between the actual memory processes that occurred in the highly self-relevant condition (high self-awareness and first person text) and the processes that occurred in the other conditions. In general, we assume that when a person reads a text there is an attempt to match the content of the text with preexisting knowledge, including memories about self and others. A set of memories which are similar to the content of the text is accessed, such as memories of constraint or burial. However, when the text is written in the first person the closest match between the text and memory is an event in which the reader ("I") felt constrained or claustrophobic; a very unusual topic and not the kind of memory an average introductory student is likely to dwell on frequently. Hence the novelty of such memories.

We assume that self-awareness also activates memories (mood-related cognition), specifically memories about self. There is a convergence of activation from both sources, first person reading and self-awareness, on that subset of memories which are both thematically related to the text and that are memories about self. When the two sources of activation converge on this specific subset of memories they become accessible to recall. In this way self-awareness facilitates the retrieval of novel, mood congruent memories. Participants who are not self-aware (not high absorption oral readers) and who read first person texts do not have

this convergence of activation upon a specific subset of text related memories about self, hence they do not recall novel memories.

Conclusions

The results of this study require a very different understanding of affective responses to reading than we had originally proposed. The global affective intensity measure, and the self-awareness measures were consistently influenced by individual difference variables. Absorption effects were prominent on the affective intensity, clarity, and compellingness measures. High absorption oral readers experienced self-awareness, and gender contributed to differences in the type of self-awareness experienced by the high absorption oral readers. Clearly the intensity and quality of the initial response while reading narrative text was far more an effect of who did the reading and how they read than it was an effect of what was read.

The memory measures were more obviously affected by text variables in addition to modality and the subject variables. The interaction on the memory novelty measure together with uniform affective similarity indicated that selection of a particular event episode within a single emotion network was influenced by who did the reading, how they read, and what was read. When intensely self-aware participants read self-referent texts they reported having selectively recalled novel event episodes. We have proposed,

post hoc, that it was the self-awareness of the high absorption oral readers combined with a self-referent text that lead to the retrieval of novel memories.

The retrieval of novel memories suggests that the most uniquely personal responses occur when the act of reading is highly self-relevant. These ideosyncratic responses do not depend on intense affect, but upon self-directed attention. They are, in one sense, acts of self-reflection initiated by reading narrative prose.

Our findings have identified three distinct types of responses to narrative prose, the intensity of the initial affective response, self-awareness, and the retrieval of novel mood congruent memories. The initial affective response to reading narrative prose was most intense, clear, and compelling among high absorption participants. Those high absorption participants who read orally also reported self-awareness. We have proposed that this self-awareness partially accounted for the retrieval of novel mood congruent memories by the high absorption participants who read first person texts orally. Of the two initial responses to the reading task it appears that self-awareness, and not affective intensity as originally proposed, enabled the most personal responses to the story.

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Appendix A

Relaxation Instructions

Physical relaxation instructions: To begin, I am going to read some instructions that are designed to help you relax . I will ask you to tighten, hold, and then release several different muscle groups, and I will ask you to notice your body growing more relaxed as you do this. As we procede through each new muscle group, I would like you to concentrate on thightening just that one group at a time; try to keep the rest of your body as loose and relaxed as possible.

Find a comfortable position that lets you move and breathe freely. You may feel more comfortable if you take off your shoes, but you don't have to. (pause) Now close your eyes and take a few deep breaths. Breathe slowly and evenly. (pause)

Now take a deep breath in, hold it, and thighten the muscles in your face and your neck. Thighten your forehead and tense the muscles around your cheeks and mouth, around your clamped jaws, and your chin. Hold that tension and notice how it makes your whole head feel. (pause) Now breathe out and relax. Just let those muscles in your face and neck go limp. Let your lower jaw hang loose; part your lips a little if that helps. Take a deep breath in, and then breathe out. Feel your head hanging loose and relaxed as you breathe out all that tension. (pause)

Now I'd like you to focus your attention across your chest, your shoulders, and down your arms to the tips of your fingers. Take a deep breath in, hold it, and tense those muscles. Hold your arms out straight and make two tight fists. Pull your shoulder blades back as if to make them touch. Hold that tension. (pause) Now release all that tension as you breathe out. Breathe deeply in I and out, and feel your arms drop loosely in your lap or by your sides. Let your chest and shoulders relax as you breathe freely. Feel how loose and relaxed your face, and neck, your shoulders, chest, and arms are. (pause)

Next I want you to breathe in, then tense the muscles in your back and stomach. Hold these muscles tight and rigid. Feel the ropes of muscle along your spine and feel your tight stomach muscles. (pause) Now breathe out. Just let those muscles go loose. Take a few deep breaths. Feel the relaxation spreading down from the top of your head, relaxing your face and neck, your shoulders and arms, your chest and back and stomach. Feel your body just loosening up all over. Now take a deep breath in. Tighten the muscles in your legs by straightening your legs and lifting your feet slightly off the floor. Feel the tension that runs through your thighs, the muscles around your locked knees, and down through your calves. Point your toes or clench them tight. Hold your legs out tight and straight. (pause) Now let your legs drop down and breathe out. Just let your legs rest loose and comfortable, your knees and ankles free to flex

and bend with the wieght of your legs.

Pay attention to how your whole body feels. Notice the relaxed feeling all over from our head, down through your arms and torso, all the way down through your legs to your toes. Take some deep breaths. (plause) Is there any spot that doesn't feel loose and relaxed? Take a moment to concentrate on relaxing that spot. Pay attention to just feeling loose all over. Feel the relaxed heaviness of your body as every muscle looses all its tension.

Cognitive relaxation instructions: Sometimes daily problems and concerns can create tension in spite of being physically relaxed. The following instructions are designed to help you relax mentally as well as physically. These instructions will not solve your problems or concerns, but they may help you get some distance from them for a while. You will not be asked to discuss these concerns. You will reflect on them privately and to yourself.

Please close your eyes and keep them closed throughout this exercise. I think you will find that this adds to the sense of privacy and of having your thoughts and feelings to yourself as we do this. Now take some deep breaths. Get that relaxed-all-over feeling again (pause) and as you do this, pay attention to the middle of your body; to your throat, chest, and stomach. In a moment, I am going to ask you to see what comes to you in the middle there when you ask yourself these questions: "How am I right now? How do I feel about my life right now?" At that time, if anything comes in

response to these questions, just pay attention to what that is. Don't work on it or figure it out in some way. Just notice how any problems or concerns you may have feel inside. See what comes now right in the middle there, in your chest, throat and stomach, as you ask youself, "How am I right now? How do I really feel about my life right now? What's in the way of me feeling completely alright about myself right now?" Ask yourself these questions right now, and see if anything comes to you. (pause) Remember, don't work on it or figure it out, just acknowledge that the feeling is there, right now, in the middle of your body. (pause)

Now, try to imagine it outside yourself for a while. Imagine it just outside your body, or imagine putting it down beside you on the floor, or across the room from you. Imagine that feeling far enough away from you to allow some quiet space inside you right now. Just say; "Oh yeah, that's there, but I'm going to get some distance from it for a while. I may want to get back to it later, but right now I am just going to see how I feel apart from all that." Try that now, just get some distance from the feeling. (pause)

Now, pay attention to the middle of your body, and see how you feel apart from that concern or problem. Then say to yourself, " What else is there? what else right now is keeping me from feeling completely fine at this moment?" If you notice something else, don't go into it or examine it in any way. Just acknowledge that it's there. (pause) Now

imagine that concern outside you just as you did with the other one. Imagine putting it across the room, or on the floor; wherever you put the other concern.

Notice how it feels to have some distance from those concerns right now, and also noticed the quiet space you have made for yourself. As you do this, again ask yourself, "What else keeps me from feeling just fine right now?" There may be other concerns or problems, or other things preventing you from feeling fine right now. For instance, you may feel nervous or concerned about this experiment. Just notice the way that, or any other concern feels right now in the middle of your body. (pause) When something comes up, don't go into it. Just accept that it's there, and again distance yourself from it. And notice the relaxed, quiet feeling you may have when each concern is distanced from you. Try that now, distance yourself from whatever is in the way of your feeling completely fine right now. (pause)

Go once more into that quiet space inside you, and say to yourself, "If all those things were solved, or if I could keep them all out there for a while, I'd feel really good right now." See how the middle of your body responds to that. If something feels strange or not quite right when you say that, see what it is. Then, put that outside, too, and gain some distance from it. And pay attention to the relief, the good feelings, and the quiet relaxed space that you have made for yourself right now. Try that now, to yourself. (pause)

Appendix B

Reading Instructions

Oral reading instructions: I am going to ask you to read a paragraph. Each sentence of the paragraph will be printed on the TV screen before you, one sentence at a time, for a few seconds. As you read, try to get a full sense of all that the story offers. Read thoroughly to get a good feeling for all that it contains. As you read, vividly imagine the situation and experience described in the story. Try to convince yourself of its reality.

You will not be observed or recorded as you read the story. You will be completely alone, reading to yourself. The same story will be presented three times, with the title displayed for ten seconds between each repetition. Please read the story out loud all three times.

Silent reading instructions: I am going to ask you to read a paragraph. Each sentence of the paragraph will be printed on the TV screen before you, one sentence at a time, for a few seconds. As you read, try to get a full sense of all that the story offers. Read thoroughly to get a good feeling for all that it contains. As your read, vividly imagine the situation and experience described in the story. Try to convince yourself of its reality.

You will not be observed or recorded as you read the story. You will be completely alone, reading to yourself. The same story will be presented three times, with the title displayed for ten seconds between each repetition. Please

read the story silently to yourself all three times.

Appendix C

Memory Instructions

In a minute I will read you a word. When you hear this word I want you to see what memories it brings to mind. In particular, I want you to pay attention to any memory of a specific experience from your own life. This should be an experience that you were directly involved in, not someone else's experience.

Just say "okay" to let me know as soon as a memory comes to mind. At that time I'll ask you to describe the memory in a few words or sentences so that you can identify it later. Just tell me enough to identify the memory but don't go into the details yet. We will go through this process three times using three different verbs to prompt three different memories. When you've done this I'll ask you to fill out a question form for each memory.

Once you have identified and rated all three memories we will go back over each one and I will ask you to describe the experience in as much detail as you feel comfortable with. You will not be asked to talk about anything that you want to keep private or to yourself.

Appendix D

Autobiographical Memory Elaboration Instruction Prompts

Okay, now I'd like you to tell me about these experiences in more detail. Remember, if I ask you about something that you don't want to talk about you just need to tell me so and I won't ask you any more about it.

Prompt: To begin with, I would like you to tell me about the event you identified as (---). Tell me in as much detail as you can remember, from the start to the finish.

Prompt: Would you please describe the setting to me in more detail. Describe where this event took place and describe the objects and people involved.

Prompt: Did you experience any body feelings or sensations? (if yes) Can you describe those body reactions for me? Were you explicitly aware of any of those feelings at the time that they were happening?

Appendix E

Text Versions

First person, stimulus: Slowly, my eyelids open. I expect to see, but neither daylight nor lamplight seeps into the darkness. I can see nothing. I try to understand where I could be. There is scarcely room for my arms at my sides in the narrow place where I lie. There is no room for me to bend my knees. I cannot sit up, for immediately above my forehead is a rough wood surface. The wood is cold and damp. I think it is the kind of wood that gives a dull and heavy thud when tapped. I notice a smell of earth and decay. The air is heavy and stale, almost unbreathable. I am aware of the very closeness of the place which holds me in. I think about the rough, wet wood, the smells of the earth, the darkness and the silence all around me. I am aware that they surround my head, my arms, my hands, even my feet. I am surrounded by silence: Cold silence. I have been buried alive.

First person response: Slowly I open my eyelids. I strain to see, but neither daylight nor lamplight seeps into this darkness. I can see nothing. I try to determine where I am. I begin to move my arms but my hands strike the narrow boundaries of this place where I lie. I try to bend my knees but there is no room. When I try to sit up, my forehead strikes a rough wood surface. I touch the cold, damp wood. I tap on it and hear a dull and heavy thud. I smell earth and

decay. I try to breathe, but the heavy stale air does not seem to fill my lungs. The blood speeds from my face to my heart and back again. My whole head is ringing and buzzing and pounding. I shiver, my hands and feet are cold but my face is burning hot. I am surrounded by silence: Cold silence. I have been buried alive.

Third person, stimulus: Slowly, her eyelids open. She expects to see, but neither daylight nor lamplight seeps into the darkness. She can see nothing. She tries to understand where she could be. There is scarcely room for her amrs at her sides in the narrow place where she lies. There is no room for her to bend her knees. She cannot sit up, for immediately above her forehead is a rough wood surface. The wood is cold and damp. She thinks it is the kind of wood that gives a dull and heavy thud when tapped. She notices a smell of earth and decay. The air is heavy and stale, almost unbreathable. She is aware of the very closeness of the place which holds her in. She thinks about the rough, wet wood, the smells of the earth, the darkness and the silence all around her. She is aware that they surround her head, her arms, her hands, even her feet. She is surrounded by silence: Cold silence. She has been buried alive.

Third person, response: Slowly she opens her eyelids. She strains to see, but neither daylight nor lamplight seeps

into this darkness. She can see nothing. She tries to determine where she is. She begins to move her arms but her hands strike the narrow boundaries of this place where she lies. She tries to bend her knees but there is no room. When she tries to sit up, her forehead strikes a rough wood surface. She touches the cold, damp wood. She taps on it and hears a dull and heavy thud. She smells earth and decay. She tries to breathe, but the heavy stale air does not seem to fill her lungs. The blood speeds from her face to her heart and back again. Her whole head is ringing and buzzing and pounding. She shivers, her hands and feet are cold but her face is burning hot. She is surrounded by silence: Cold silence. She has been buried alive.

Appendix F

Post Experimental Questions

The following statements describe some kinds of experiences which you may or may not have had while reading. Read each statement then circle the most appropriate option on the scale from not at all descriptive of my experience while reading (0) to very descriptive of my experience while reading (4).

1. While I was reading I was concerned about what other people might think of me.

0.....1.....2.....3.....4

not descriptive very descriptive

2. While I was reading I was worried about making a good impression.

0.....1.....2.....3.....4
not descriptive very descriptive

3. While I was reading I was concerned about the way I presented myself.

0.....1.....2.....3.....4
not descriptive very descriptive

4. While I was reading I was self-conscious about the way I sounded.

0.....1.....2.....3.....4
not descriptive very descriptive

5. While I was reading I was concerned about my style of reading.

0.....1.....2.....3.....4
not descriptive very descriptive

The next four statements refer to your experiences during the memory task. Read each statement then circle the most appropriate option on the scale from not at all descriptive of my experience during the memory task (0) to very descriptive of my experience during the memory task (4).

1. I was reminded of memories I have not thought about in a long time.

0.....1.....2.....3.....4
not descriptive very descriptive

2. Recollection brought things together that I had not considered in the same way before.

0.....1.....2.....3.....4
not descriptive very descriptive

3. I realized aspects of my memories that I had not paid much attention to before.

0.....1.....2.....3.....4
not descriptive very descriptive

4. the whole sense of my memories is much more with me now; I could go back to them immediately if I wished.

0.....1.....2.....3.....4
not descriptive very descriptive